Vis/NIR Retrieval Performance

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Vis/NIR Results
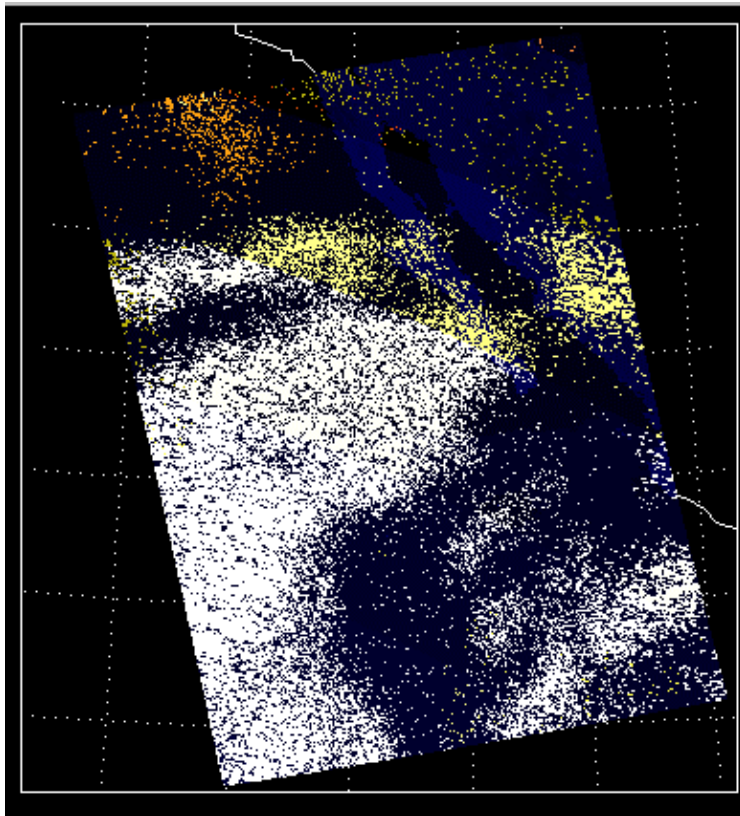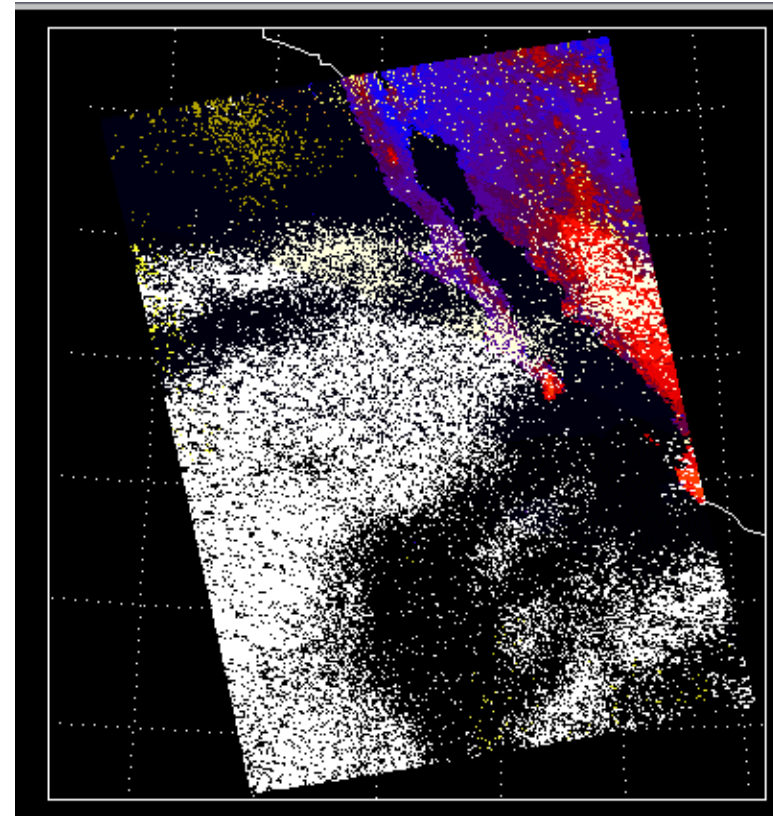
Cloud Detection
- Nearly 100% accurate, but simulation "easy".
- Most false-clear or missed-clear flags are due to the quantized cloud amount in the simulation being different than that in the truth file.
- Expect some missed clear due to geometry limits in current algorithm reporting footprints as "unknown". Will relax limits in the future.
- Expect some errors and "unknown" pixels due to snow and white sand being as bright as clouds.

Conclude that thick clouds over ocean will be easy to retrieve. Thick clouds over land will, for the most part, be retrieved once our surface map is "calibrated". Freshly fallen snow on dark ground will be reported as cloud.
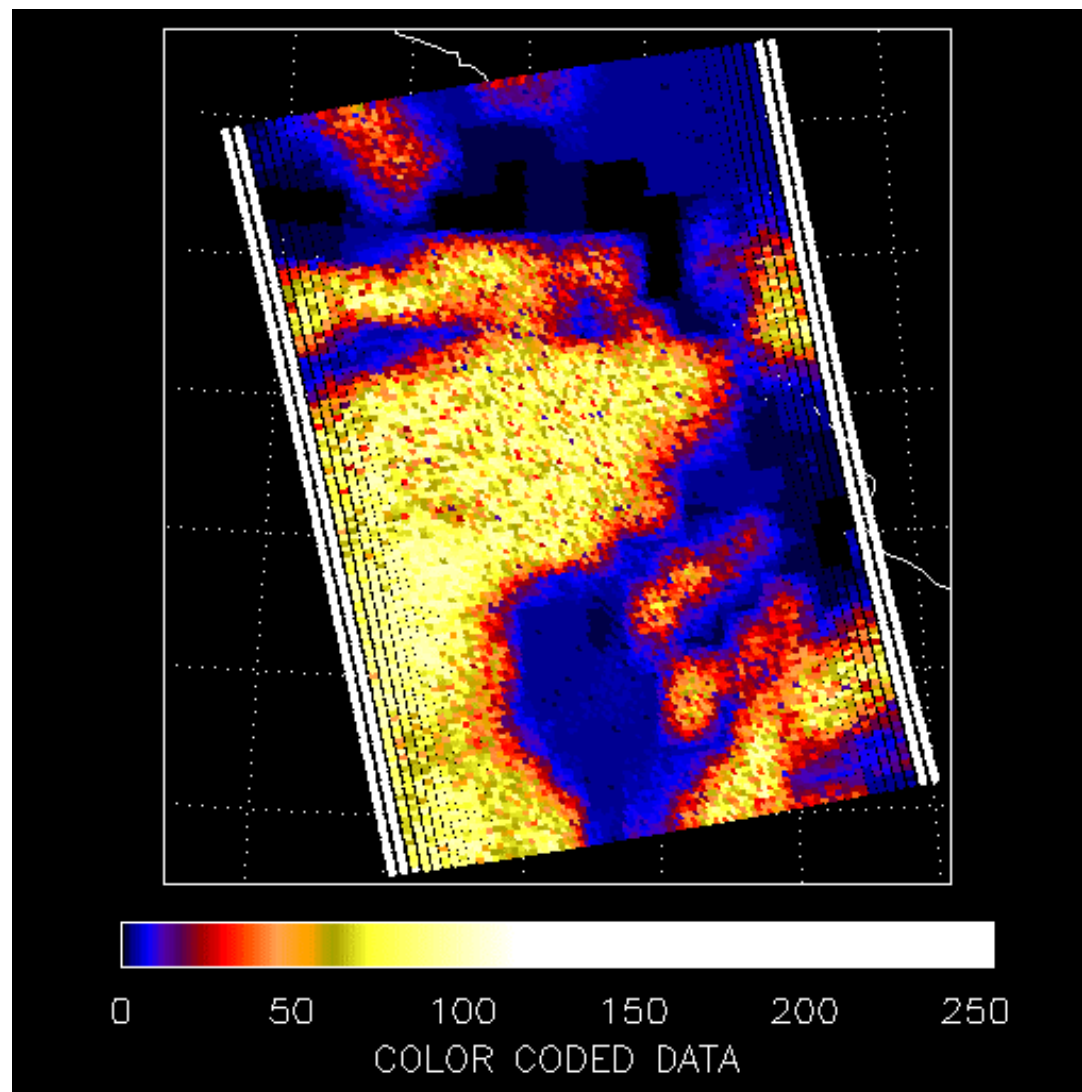
Detection of thin clouds not yet tested in JPL simulation. Santa Barbara getting good results for clouds discernible by eye in MODIS data, and intends to use IR channels to enhance Cirrus detectability.
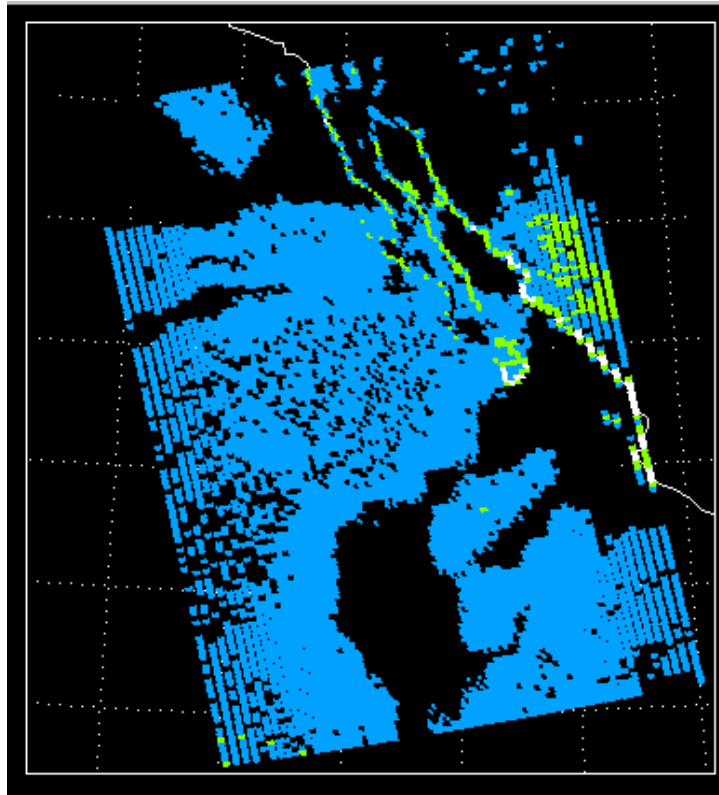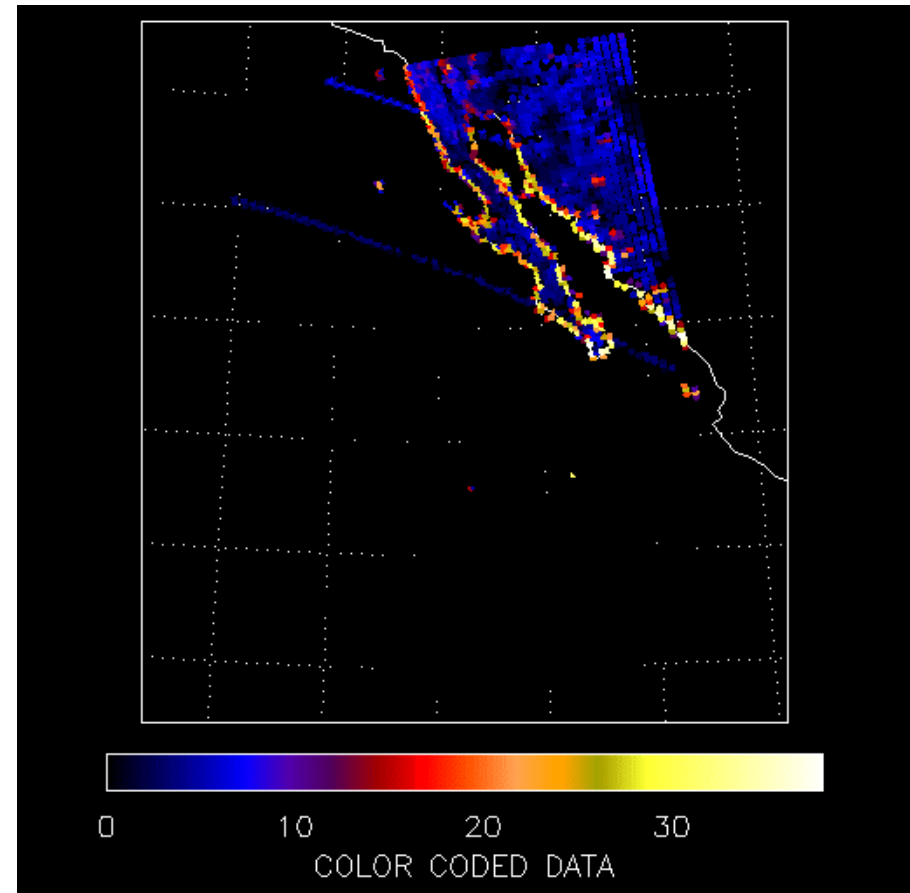
Channel 1 Radiance, Granule 208
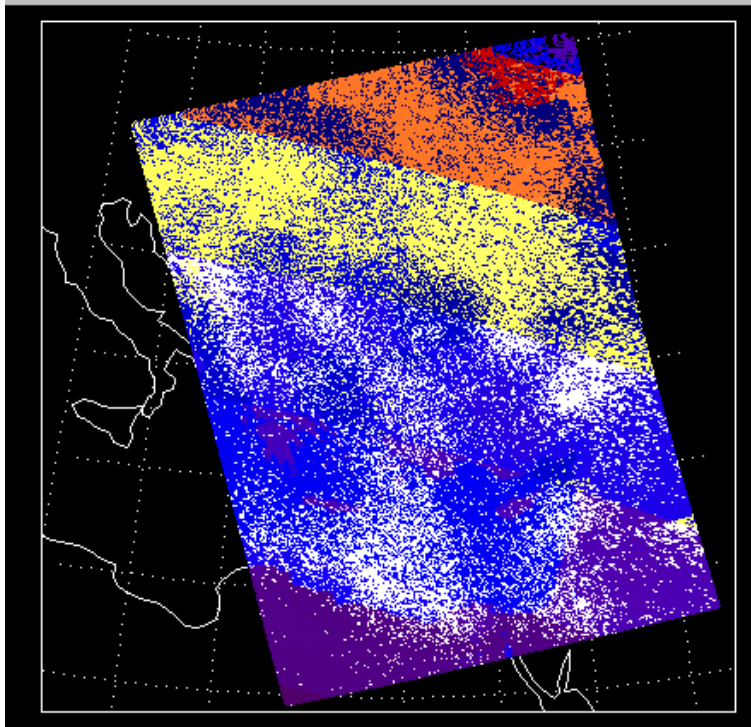
Channel 3 Radiance, Granule 208

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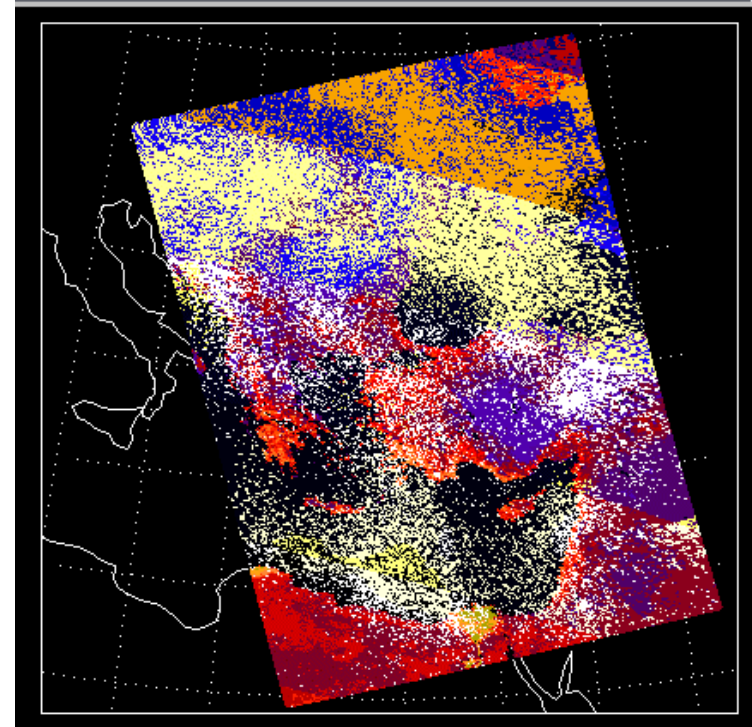
Vis Cloud Fraction , Granule 208

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L1b Inhomogeneity Index,
Granule 208
(For cloud detection)

L2 Clear-Pixel Variability,
Granule 208
(For surface variability)

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Channel 1 Radiance, Granule 110

Channel 3 Radiance, Granule 110

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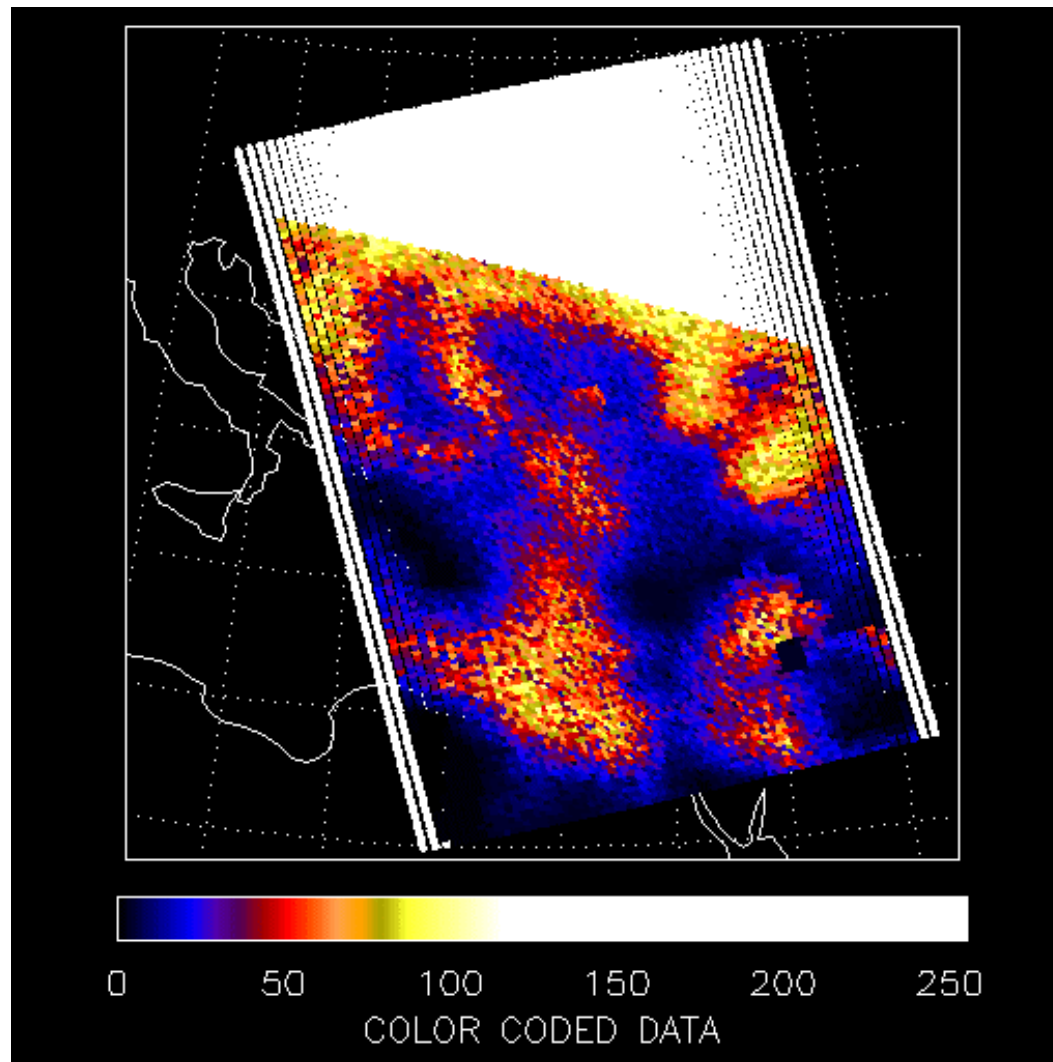
Vis Cloud Fraction, Granule 110

L1b Inhomogeneity Index,
Granule 110
(For cloud detection)

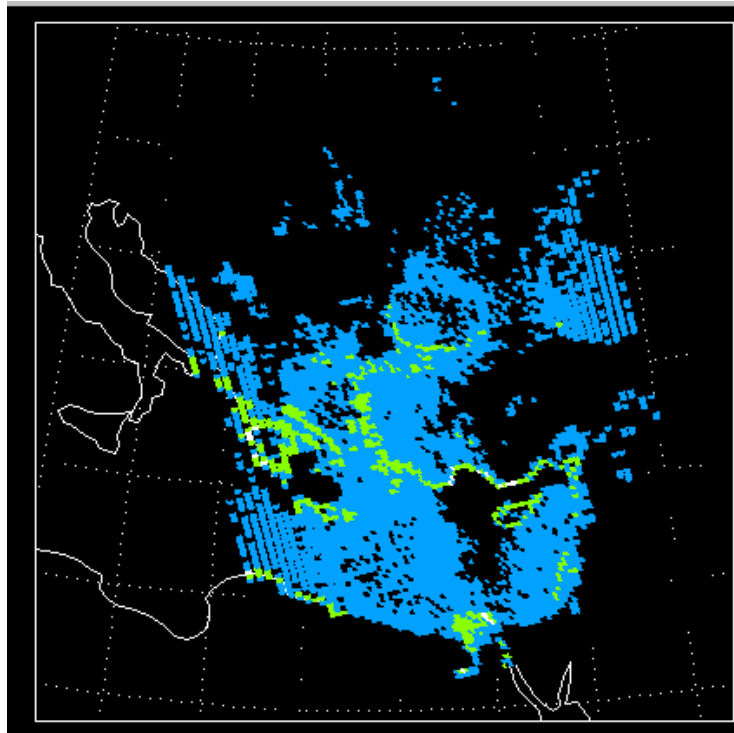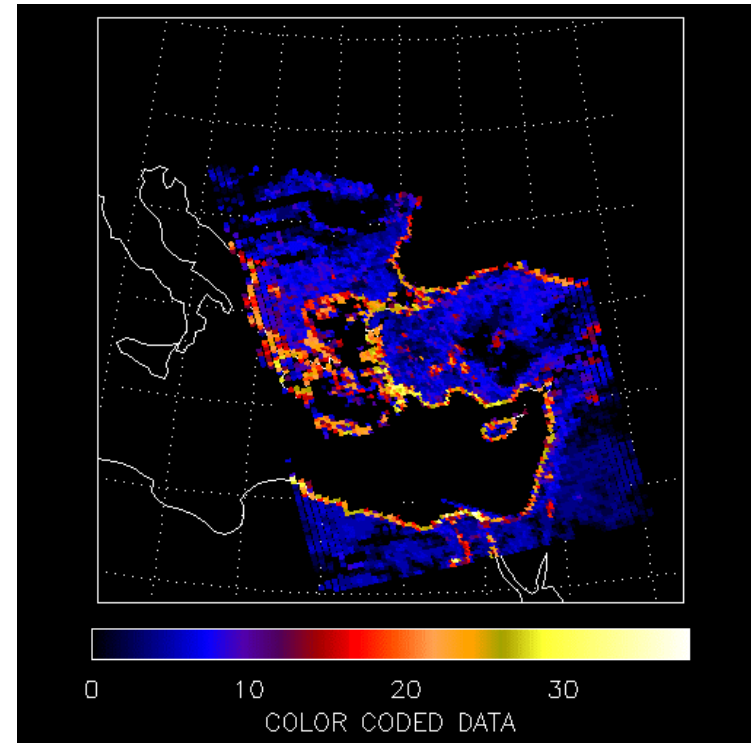L2 Clear-Pixel Variability,
Granule 110
(For surface variability)

Vis/NIR Results

Low-Cloud Detection
- Under analysis.

Vis/NIR Results

Level 1b brightness and inhomogeneity flags
Intended to help locate clear regions without performing Level 2 retrieval.
- Performing as designed. Thresholds need adjusting to optimize performance.

Level 2 reflectivity
Intended as interactive aid in interpreting scene content.
- Performing as designed. Of limited value in current simulation, but may be more useful in real-world scattering environment.

Level 2 scene variability flags
For locating areas of broken cloud cover, and identifying regions of high surface variability.
- Performing as designed. Need to correlate with IR/MW retrieval performance.